View metadata, citation and similar papers at core.ac.uk

brought to you by CORE

provided by Elsevier - Publisher Connector

ACC.14
TCT@ACC-i2 | innovation in intervention

A1789
JACC April 1, 2014
Volume 63, Issue 12

TCT@ACC-i2: The Interventional Learning Pathway

CONTEMPORARY NATIONAL TRENDS IN THE USE OF FRACTIONAL FLOW RESERVE AND INTRAVASCULAR ULTRASOUND IN PATIENTS UNDERGOING CORONARY ANGIOGRAPHY

Poster Contributions
Hall C
Saturday, March 29, 2014, 3:45 p.m.-4:30 p.m.

Session Title: IVUS and Physiology
Abstract Category: 35. TCT@ACC-i2: IVUS and Intravascular Physiology
Presentation Number: 2103-305

Authors: *Vladimir Lakhter, Chad Zack, Huaqing Zhao, Mohamad Alkhouli, Howard Cohen, Alfred Bove, Riyaz Bashir, Temple University Hospital, Philadelphia, PA, USA*

Background: Fractional flow reserve (FFR) and intravascular ultrasound (IVUS) have become important adjunctive modalities in the assessment of coronary artery disease. However, the contemporary trends in utilization of FFR and IVUS in the United States are unknown.

Methods: The Nationwide Inpatient Sample (NIS) database was used to identify all patients who underwent left heart catheterization (LHC) between January 2009 and December 2011 in the United States. Among these patients we identified those who had adjunctive FFR or IVUS. We evaluated the FFR and IVUS utilization rates (number of procedures per 100 LHC) and their in-hospital outcomes.

Results: Among the 3,941,339 patients undergoing LHC, 32,359 (0.8%) underwent FFR and 128,491 (3.3%) underwent IVUS procedures. There was a significant increase in the use of FFR (0.57% in 2009 to 1.13% in 2011, $p < 0.01$) and IVUS (3.20% in 2009 to 3.53% in 2011, $p < 0.01$) throughout the study period. The revascularization rate was 50.2% in patients undergoing FFR and 85.6% in patients undergoing IVUS ($p < 0.01$). The rate of procedure related hematoma and coronary dissection was lower in the FFR group: 1.8% vs 2.6% ($p < 0.01$); 0.8% vs 1.7% ($p < 0.01$); however, mortality rate was similar 0.8% vs 0.9% ($p = 0.28$).

Conclusions: This nationwide observational study shows that utilization of both FFR and IVUS is increasing in the United States. FFR use was associated with lower rates of procedure related hematoma and coronary dissection compared to IVUS but with similar mortality rates.